BUSINESS BUDGETING

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By: Frederick Janssen
Controller - Northeastern Division
Bausch & Lomb Optical Co.
Philadelphia, Pennsylvania

Budgeting in Switzerland

Your curiosity alone should be enough to whet your appetite for this article, but if we add that "Cherchez la femme" had a part in its origin, we are sure that you will want to know more about Budgeting in Switzerland. The author has visited Europe several times and was impressed with the economic climate of Switzerland. Through the cooperation of several business leaders in Switzerland as well as the School of Commerce of the University of St. Gallen, the author has put together a summary of budgeting activity in the land of the Swiss with particular emphasis on the difference in approach and attitude toward budgeting. We are sure that you will find the article interesting and rewarding. Oh, Cherchez la femme! Mrs. Janssen is Swiss.

Switzerland is a small country by our standards. On an area of 16,000 square miles, or about one tenth that of the state of California, it supports a population of five million people. Outside of electric power produced from its numerous waterfalls, there are no natural resources of any kind. It is small wonder that in the past Switzerland was primarily an agricultural economy. But during the last century the country has developed an industrial structure, which absorbs today 45% of the nation's working population, while agriculture accounts for only 22%.

Industry has indeed become diversified. Switzerland is one of the main exporters of textiles, such as silk and artificial fibres. Its machine plants not only produce quality steel, but share their position with the electro-technical group known for its turbines, generators and motors. Textile machinery, machine tools, precision instruments, typewriters and calculating machines are also manufactured. Naturally, there is no need to mention the watch industry, which finds markets for its products throughout the world.

With this development and growth in industry, there has likewise come to the Swiss manufacturer the necessity to know his costs in order to remain on a competitive basis with other countries. Standard costs have been accepted in many industries, but our own concept of putting standard costs to work under an over-all plan has somewhat lagged. It is only in recent years that budgetary control has been introduced by some of the more progressive companies. It may be of some interest to American budgeteers to explore the philosophy underlying budgetary practice in Switzerland.

The concept of budgets has not been a new one, as the federal, cantonal, and municipal governments have been operating under such plans for many more years than we here in America. We should not forget that a governmental budget is something relatively new in the United States. The first budget sent to Congress covered the fiscal year of 1922 after almost twelve years had elapsed since the day President Taft appointed a commission to study the advantages and disadvantages of a budget system.

SWISS INDUSTRY BUDGETS

Swiss industry, as our own, has gradually taken over the approach a government assumes in reconciling expected revenues with estimated expenditures. This has generally been a slow and cautious process. Even today there are few concerns in Switzerland, which have a budget system in the sense we normally associate with the idea of a complete budget.

As a rule, we find that partial or departmental budgets are more prevalent than the summary systems which with we are familiar. Bitterli in his study, "Budget and Budget Control" classifies budgets:

a) as to their basic characteristics:
   technical budgets
   economic budgets

b) as to their relationship in the development of an undertaking:
   organization budget
   management budget
   liquidation budget
   distribution budget

c) as to their limitation in time:
   covering more than one year
   one year
   semi-annual
   quarterly
   monthly
   weekly
   daily

d) as to their purpose:
   extraordinary budget
   ordinary budget

e) as to their application in:
   a corporation
   an individual enterprise
   a plant
   a department

f) as to their purpose:
   sales budget
   production budget
   cash budget
   personnel and wage budget
   purchasing budget
   inventory budget
   expense budget
   advertising budget
   use of material budget
   depreciation budget
   capital budget
   return on investment budget
   products cost budget

In addition to this long list of detailed budgets, we may find also in many concerns a separate budget for social payroll expenses, such as the obligatory health insurance, retirement benefits, etc. It is obvious that with this multitude of detailed plans, management in Switzerland has attempted to cover all phases of operations. It is only recently that a combination of these various budgets has been recognized as valuable in setting the policies of a business. In this connection we must recognize that to a Swiss businessman the idea of charting the course of his business even for one year seemed an impossible task. The use of cyclical or seasonal trends, with few exceptions, is unknown. For production and sales budgets three or six months periods are the rule. On the other hand, the depreciation budget is prepared for several years.

One of the main reasons for setting up budgets on a partial basis is the feeling that in the first place there is a danger in attempting to do to much in too short a time. The fear of failure haunts the Swiss budgeteer much more so than his American counterpart. With a partial plan, it is felt that a more intensive study can be made of any possible defect. The importance of having a partial plan accepted as workable by the employee is another consideration in the gradual building up of a complete budget system.

SWISS APPROACH TO BUDGETS

As to the introduction of a system, be it limited or complete, three separate methods are recognized and practiced:

1) management dictates the figures without consulting the departments, which are involved.

2) the direct opposite, where each department sets its own budget

3) the democratic method, in which management and department heads, through close collaboration, arrive at the company budget.

A review of how the various departmental budgets are established may show us in what respect the Swiss approach differs from ours.

Generally, the sales managers will be responsible for setting the sales budgets for the various product lines. These may be individual products or major groups of products. Many companies in fact start their **SALES BUDGET** by setting a quota for each salesman, and the final budget is merely the sum total of these individual quotas. The prospective market is analyzed as to demand, not only in Switzerland but especially in foreign countries. Consequently, far more consideration must be given to world markets with emphasis on important restrictions, currency exchange limitations, and political stability. The sales departments are likewise influenced in building their estimates of expected sales by the number of unfilled orders and the available capacity to produce.

There has been much more hesitancy on the part of Swiss industry for expansion. As an aid in setting what is called a "should" figure as compared to an "is" figure, source material is available in the company's own records, in the statistics published by trade associations, chambers of commerce, in the publication, "Die Volkswirtschaft" of the Department of Economics, or the reports of the International Labor office. The final budget will then show the company's expected share in the so-called "should" market, stated both in quantities and in monetary values.

The **PRODUCTION BUDGET** again is the responsibility of a plant manager or of department heads, where there are several products. The size of the budget is limited by

1. plant facilities

2. availability of raw material
3. sales estimates
4. available financing
5. legal restrictions.

While some of these items are familiar to us, the problem of raw material has rarely been a hindrance in our planning, except in time of war. We are also fortunate that most of our own industries do not have to curtail their operations because of some government edict. Swiss cost accountants are fully aware of break-even points, and consequently their production budget reflects their attempt to establish the optimum production, both as to quantity and profitability. However, a complete budgeting of the various cost centers is rarely carried through in practice.

The treasurer's office, or as it is so aptly called "the financial department" draws up the **CASH BUDGET.** Here we find a truer budget consciousness, viz. that of planning. Most of these cash budgets are set for at least one year. They are then usually reduced to semi-monthly budgets, and in this respect go beyond our normal practice.

PERSONNEL AND WAGE BUDGET is the combination of the various departmental estimates as to the number of employees required to carry on the business in the following year. There seems to exist a weakness in delegating this work to a department head, as naturally it is only human to overstate the number of people and the wages necessary in order to make a good showing the following year.

PURCHASING BUDGET again is written by the purchasing agent, but is not as rigidly adhered to as other phases of the budget program. It is primarily intended as a guide and a change in market conditions, or the effective demand may bring about a reduction or an increase in the original figures. It is interesting to note that the Swiss writers on this subject mention specifically that speculative purchases should not form part of the formal budget. Apparently this is an indication of the extent of the difficulties encountered by the Swiss manufacturer to obtain the necessary materials at all times. We again find references to the governmental regulations, which play so vital a part in the Swiss economy.

The **INVENTORY BUDGET** is the result of close team work between sales, purchasing, production, and financial departments. Maximum and minimum of quantities to be carried in stock are established. Inventories of new material and semi-finished goods should be sufficient to guarantee the most profitable utilization of existing production facilities. The budget as given to the inventory supervisor places upon him the responsibility to watch particularly for slow moving items, and to report them in time for their profitable disposal.

Under **EXPENSE BUDGET** the Swiss budgeteer understands items such as interest, taxes, insurance, salesman's traveling expenses, office expenses, building and machinery maintenance and repairs, electric power, and social benefit charges for accident, retirement, unemployment, or health insurance. In many instances this budget is built up through a comparison of expenses incurred in prior periods without due regard to estimated results in other departments. This is particularly true for organizations which are still operating under a partial budget plan. Generally, the expense budget is set for one year, and for convenience is divided by twelve to give a monthly yardstick against which to measure actual performances.

The advertising manager prepares his **ADVERTISING BUDGET** based on the amount or money allotted him by management. Inasmuch as many of his duties involve a market study, not only for the domestic but also for foreign markets, his work in many respects is a combination of advertising and sales research. Up to the present, his media are more orthodox than those of his American counterpart. Newspapers, film trailers, or direct correspondence are the major forms of Swiss advertising. Television stations are operated by the state, and in fact, offer only a few hours of entertainment at night without any advertising. But advertising still faces the problem of allocating its available funds to various products and to estimate the efficacy of its campaign by comparison with actual sales figures.

The **MATERIAL BUDGET** is prepared in conjunction with the production budget, and primarily represents the quantities of raw material required for the expected production. These are ascertained both as to kind as well as to quality desired. A monetary value is then determined based on current market prices.

A **DEPRECIATION BUDGET** is generally a plan covering more than one year. Amount and life expectancy of capital assets are fixed by the engineering and cost departments. It is important here to note that in Switzerland the depreciation budget frequently takes into account a change in the replacement value of the assets with a subsequent revision of the budget. It, therefore, does not necessarily tie in with accounting for depreciation from a purely financial standpoint.

Top management usually determines the extent of the **CAPITAL BUDGET.** While the basic plan may cover only the replacement of existing facilities, introduction of new and improved machinery injects an element of uncertainty and requires a flexibility on the part of management.

A computation of the desired return on investment is made through the use of a simple formula, which relates net profit on a percentage basis to own capital and to borrowed capital. It takes into account the cost of such outside funds and sets the financing policy of the company. A typical budget of this type may take the following form:

OWN CAPITAL	BORROWED CAPITAL
100,000	–
80,000	20,000
50,000	50,000

INTEREST COSTS (6%)	PROFIT ON OWN CAPITAL
1,200	8,000 - 8%
1.200	6,800 - 8½%
3,000	5,000 - 10%

It is obvious that when interest rates are below actual earning rates, outside capital will be advantageous to the company. There is however, no attempt made to build up any complicated formulas, with which we are familiar and through which an endeavor is made to control estimated future income an expenses to an extent that they stay in proper adjustment. The use of a break-even chart covering all of the company's operations is practically unknown.

PRODUCTS COST BUDGET resembles our setting of cost standards by product. There is a full understanding of the effect various volume levels of production have on fixed and variable costs.

FUNCTION OF SWISS BUDGET DEPT.

In order to arrive at a total company budget, the controller's department combines the detailed budgets and submits its plan to top management for approval. A definite time limit is given each department head with preparatory work starting as early as September of each year. In one company, e.g., the completed budget must be finished in time for submittal to the board of directors for its December meeting.

Management usually issues over-all directives as to the policies to be followed in setting the budget. It is the task of the budget department to outline in detail the procedures to be followed by the various departments, so that a uniform and careful approach to the budgets results. The forms submitted to the departments give certain comparative data for prior years, as well as for the current year. Generally, discussions between the interested department heads will lead to an integrated plan for the following year.

Once the completed budget has been approved by the board of directors, the departments are notified in writing and are expected to perform within the limitations set by their respective budgets.

Periodically, budgeted figures are compared with actual and frequently a graphic presentation is used. Factory managers receive monthly, or in some instances, quarterly reports on production and on costs. These reports are prepared by the regular cost accounting section. Sales managers, on the other hand, are notified by the controller's department on a quarterly basis, how sales, gross profit, and net earnings compare with estimates. All these comparisons are given by product groups.

The controller's department also furnishes the purchasing agent with a monthly comparison of purchases of raw material and semi-finished goods.

Top management receives a quarterly report on all phases of the business giving budgeted figures and actual results. Should substantial variances develop, more frequent interim reports are prepared for necessary action by management.

SUMMATION OF SWISS BUDGET POSITION

In summing up, we may conclude that the concept of budgeting is well understood by the Swiss. There are, however, indications that a fully integrated budget system is still a rarity. Too frequently only a partial attempt has been made to place at the service of management this valuable tool for planning and control. Another aspect of what we consider a prime requisite for effective budgeting is lacking or regarded as somewhat overshadowed by other factors. I am thinking of sales forecasting with proper regard to cyclical or seasonal trends. Naturally, the Swiss manufacturer faces a limited domestic market for his product, and consequently, his estimates of sales possibilities are circumscribed by governmental regulations and policies. It is, nevertheless, gratifying to know that the value of planning for the future has been recognized by a number of Swiss concerns. To many of them, budgeting is still a new art, and we are reminded of our own struggles to make budgets acceptable to top management. It might be of interest to give a listing of Swiss business firms, which at the time of writing are setting up budgets as part of managerial control:

1) Georg Fischer A. G.–
Schaffhaussen

Forgings — Complete budget system since 1956

2) Bally Shoe Works A. G.

Manufacturer of shoes — Sales, purchase and production budgets

3) Globus-Zurich

Department Store — Departmental budgets - though not complete

4) Grieder & Cie-Zurich

Garment industry — Recently introduced - partial budget on costs

5) Machine Works Oerlikon-Oerlikon

Machinery — Complete budget system

6) Stoffel & Co-St. Gallen

Textiles — Simple cost budget - not complete

7) Sulzer Bros. A. G- Winterthur

Machinery — Extensive cost budget - not complete

As an indication of the extent to which budgets are being discussed in Swiss industrial circles, the University of St. Gallen furnished me with a bibliography of books and articles published in Switzerland dealing with budgeting. Most of these are written in German, which is understandable, as the industrial section of Switzerland is located in the German speaking part of the country. Only one book and two articles were reported written in French. Practically all of these books have been written since 1950, even though one or two date back as far as 1927. What is surprising is the fact that the published material is scarce when compared to the multitude of books and magazine articles, which have appeared in our country. It would seem that the Swiss have been somewhat reluctant to accept the innovation of budgeted planning. The fact, however, that so many of the more progressive firms have adopted budgets, gives us the encouragement to look for additional experiences to be gained under conditions so different from ours, but where a free exchange of ideas between businessmen of the two countries will be helpful not only to the Swiss but to ourselves.

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DORWARD C. WITZKE, Budget Director, Clevite Corp., Cleveland, Ohio

KENNETH M. MARKWARDT, Economics Laboratory, Inc., St. Paul, Minnesota

JOHN H. DONOVAN, Jr., Budget Analyst, Koehring Div. of Koehring Co., Milwaukee, Wisc.,

CHARLES E. PLUMMER, Staff Asst. to V.P. of Finance, Koehring Co., Central Office, Milwaukee, Wisc.

NORMAN S. CARLSON, Asst. To Div. Mgr., Thomas E. Edison Industries, McCraw-Edison Co., Instrument Div., West Orange, N.J.

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EDWARD L. HORSTMAN, Sr. Acct., California Bank, Los Angeles, Calif.

By: Travis H. Cramb
Staff Analyst
Sundstrand-Denver
Division of Sundstrand Machine Tool Co.
Denver, Colorado

Outline For The Development Of A Flexible Direct Labor and Manufacturing Expense Budget

Once in a while it is important and rewarding to review a description of the basic steps required in the preparation of a flexible budget. This article is excellent for this purpose. The logical development of the flexible budget in sufficient detail to afford a comprehensive restudy of your own approach to the problem is the strong point of this article.

To successfully develop a budget, one should have a thorough understanding of the accounting system as it is and as it should be. Furthermore, one should understand the operations of the company. This includes an insight of factory as well as office operations, what management wants in the way of financial control, and how the various budgets can be developed to provide the desired control.

Before getting into the mechanics of developing a Direct Labor and Manufacturing Expense Budget, let me introduce you to our hypothetical company. The Ajax Pump Company is a multi-plant company engaged in the manufacture and distribution of five models of large centrifugal pumps. The company has a decentralized accounting system as well as decentralized factory operations.

Although the general office permits the various plants to operate as autonomous units, a rigid control system is maintained over all locations. The general office prepares the Sales Budget, and the allocation of the total anticipated sales dollar to the various budgets such as cost-of-sales, direct materials, selling, administrative, profit, etc. The anticipated sales volume by units, as determined in the Sales Budget, is allocated to each of the company manufacturing plants. Each plant is required to prepare its own budgets, which are subsequently consolidated into total company budgets.

BUDGET FOR PLANT NO. 4

The sales volume, or standard volume as it is often called, that is allocated to Plant No. 4 amounts to 106,000 units for the next budget year and is made up as follows:

Model	Standard Volume
A	51,520
B	32,688
C	9,080
D	5,447
E	7,265
Total	106,000

The direct labor budget is given first consideration as direct labor is the base around which the manufacturing expense budget is developed. The Budget Department of the plant accounting office requests the Standards Department to furnish the direct labor standards by department and model that are currently in effect, but adjusted to reflect changes in the standards as a result of improved manufacturing methods and new model engineering changes. These standards, as then used by the budgeting activity, will be called Budget Work Standard Hours, and are shown in Figure 1.

(Fig. 1)

BUDGET WORK
STANDARD HOURS PER MODEL

Productive Department	MODELS A	B	C	D	E
Casting	3.56	3.98	3.20	2.98	3.50
Milling	4.60	4.78	5.22	4.20	3.12
Drilling	4.36	6.04	8.97	12.11	5.10
Assembly	7.80	7.98	8.51	9.85	5.76
Test & Repair	.18	.18	.24	.24	.12
Total Plant	20.50	22.96	26.14	29.38	17.60

Standard volume is further based on 243 working days or 1944 hours annually, which will permit approximately 10 days for retooling and model change, and 7 paid holidays. The majority of the direct labor employees are to be given their vacations during the change-over period. Therefore if 1944 hours are the normal hours for the year, the plant must produce an average of 54.5 units per hour in order to maintain standard volume. The Standards Department also computes the Direct Labor Bill (Fig. 2 & 3) except for the dollar computation, which is computed by the Budget Department.

(Fig. 2)

DIRECT LABOR BILL

Casting Department — Budget Year 1957 — Budgeted Wage Rate $1.9265

MODEL	STANDARD VOLUME	X BWS HOURS PER MODEL	TOTAL BWS HOURS	X BUDGETED WAGE RATE =	TOTAL BWS DOLLARS
A	51,520	3.56	183,411	$ 1.9265	$353,341
B	32,688	3.98	130,098	1.9265	250,634
C	9,080	3.20	29,056	1.9265	55,976
D	5,447	2.98	16,232	1.9265	31,271
E	7,265	3.50	25,428	1.9265	48,987
TOTAL DEPARTMENT			384,225		$740,209

$$\frac{\text{384,225 BWS Hours}}{\text{1944 Annual hours per employee}} = \text{198 Direct Labor Employees}$$

The direct labor hours, dollars and employees are computed for each department, as shown in Fig. 2, and then consolidated into the Direct Labor Bill for the total plant.

(Fig. 3)

DIRECT LABOR BILL

Total Productive Departments — Budget Year 1957

DEPARTMENT	ANNUAL BWS HOURS	X CURRENT AVERAGE DEPT. WAGE RATE =	TOTAL ANNUAL BWS DOLLARS
Casting	384,225	$ 1.9265	$ 740,209
Milling	486,182	1.9614	953,597
Drilling	606,525	2.0275	1,229,730
Assembly	835,476	1.8840	1,574,037
Test & Repair	19,516	1.9922	38,880
Total Plant	2,331,924	$ 1.9454	$4,536,453

$$\frac{\text{2,331,924 BWS HOURS}}{\text{1944 Annual Hours per employee}} = \text{1,200 Budgeted Direct Labor Employees}$$

Direct Labor is budgeted as 100% variable, with the result that there must be production in order to generate direct labor budget authorization. With the direct labor budget divided into departments by model, as shown in Figures 2 and 3, there is sufficient budget data available to compute direct labor budget authorization for any given period regardless of volume or mix. Direct labor budget authorization is computed by multiplying units produced per model by the BWS hours per model. These hours multiplied by the budgeted wage rate will provide the authorized direct labor dollars for the period. Management is provided with a tool for greater control, as direct labor requirements can be

forecast on a daily or weekly basis by applying the BWS hours and dollars to the production schedule.

Still another advantage afforded is that a daily comparison can be made between actual and budgeted direct labor. When necessary the Standards Department can supply BWS hours per model by individual operation, employee, or foreman in order to isolate problem areas on which remedial action can be taken before direct labor costs are excessive for extended periods. Budgeted wage rates are the current rates adjusted for anticipated economic changes.

BUDGETING FOR INDIRECT LABOR

Indirect labor is that labor which is not directly engaged in the manufacture of the product; such as foreman, clerks, janitors, maintenance men, etc. The Ajax Pump Company budgets indirect labor as partly nonvariable and partly variable. The non-variable portion is that complement of employees in various classifications who might be required to sustain an idle plant for short periods of shut-downs due to strike, model changes, material shortages, etc. Such non-variable functions consist of:

Plant Manager
Plant Superintendent
Production Superintendent
Department Managers
General Foremen
Certain Key Foremen
Certain Plant Guards, Clerks, Janitors, Maintenance Personnel, etc.

The number of non-variable personnel to be budgeted is dictated to each plant by the general office as a means of controlling the non-variable organization of the company. The variable portion of indirect labor consists of those employees who are required in varying numbers when the plant is in production. Total indirect labor is budgeted at the standard volume level as is direct labor; however, one of three methods may be employed to develop the indirect labor budget depending upon the degree of the budget accuracy desired and the personnel available in the operating report activity to administer the program. The three methods mentioned are as follows:

Method 1: STRAIGHT LINE METHOD whereby the standard volume variable indirect labor is expressed in terms of a budgeted variable rate (the percentage of variable indirect labor dollars to direct labor dollars). This method is least desirable as it implies that the variable portion of indirect labor is in direct proportion to production, which may be true in some areas, but never in all areas.

Method 2: Figure 4 shows the INDIRECT LABOR INDEX METHOD whereby separate budget schedules are prepared for each department by manpower and dollar amounts.

(Fig. 4)

INDIRECT LABOR MANPOWER INDEX

Production Control — Budget Year 1957 — Average Hourly Rate $1.74

UNITS PER HOUR

Job Classification	Non-Var. Emp.	25	30	32	36	38	40	42	44	46	48	50	S.V. 54.5	56	59	62
	A/C No.															
Clerical	102 3	2•	2	3	4	4	5	6	6	7	7	8	8	8	9	9
Mat'l. Handlers	114 -	8	8	8	8	9	9	9	10	10	10	10	10	10	10	10
Cycle Checkers	122 -	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5

SUMMARY AT STANDARD VOLUME

Account	Employees	x Annual Hrs. Each	x Wage Rate	= Non-Variable	Variable	Total
102 S*	3	2080	$1.74	$10,858		$10,858
102 H*	8	1944	1.74		$27,060	27,060
114 H	10	1944	1.74		33,826	33,826
122 H	5	1944	1.74		16,913	16,913
TOTAL	26			$10,858	$77,799	$88,657

* S - Salaried
H - Hourly Rated

The number of employees budgeted by using Method 2 is the minimum number of employees that the Production Control Manager has requested at the various levels of production. Based upon historical data and workload statistics, the number of employees requested is reasonable; therefore, the Standards and Budget Departments concur. In Figure 4, the salaried non-variable employees were budgeted at 40 hours per week for 52 weeks. The company policy is to charge salaried vacation and holiday pay to the basic salary account rather than to a special vacation and holiday account. Conversely, hourly vacation and holiday pay is so budgeted with a provision of 80 hours per hourly rated employee for vacations and 56 hours per employee for 7 paid holidays.

In developing weekly budget authorization for operating reports, the non-variable portion of indirect labor is authorized at a minimum of 40 hours. Variable hourly rated employees are authorized on the basis of the department hours worked or shift hours worked by productive departments, whichever method is decided upon by management. An example of the development of budget authorization in the Production Control Department for a 35 hour week at 48 units per hour is as follows:

Account		Employees	x Hours	= Total Hours	x Budgeted Rate	= Total Dollars
102	S	3	40	120	$1.74	$ 209
102	H	7	35	245	1.74	426
114	H	10	35	350	1.74	609
122	H	5	35	175	1.74	305
				890		$1,549

The Ajax Company does not budget overtime except for those employees whose normal work week exceeds 40 hours, such as plant guards and certain maintenance personnel. Further, when overtime is permitted on a plantwide basis, it is to obtain additional production rather than make up for any possible loss in production, except in instances caused by vendor-supplied material shortages or power failures. When overtime is required for additional production, the flexibility of the budget provides the needed straight time authorization in all areas. By operating the non-productive areas with only essential skeleton crews, the company is able to overcome the adverse half time portion of overtime.

Method 3: INDIRECT LABOR STANDARDS METHOD whereby the Standards Department develops standards for the various indirect labor functions. This method provides a more realistic budget, but is also more costly to install and maintain. Some large companies are using this as a means of controlling costs to a greater extent. Here the budget is determined in much the same manner as direct labor except that workload units are not based on the standard time to manufacture the product, but on a standard based upon the indirect function performed as shown in the following examples:

Stock Record Clerks - Standard set on the number of stock record postings for a given period per stock record clerk

Timekeepers - Standard set on the number of clock hours processed for a given period per timekeeper

Accounts Payable Clerk - Standard set on number of accounts payable invoices processed for a given period per clerk

The indirect function in certain areas could conceivably be based on productive units produced, while in other areas where no reasonable standard could be set, the index or straight line method would be employed. There is also the non-variable portion of indirect labor to be considered which is not a factor in the direct labor budget.

Under the three methods discussed above, the number of non-variable employees would remain the same for a given company regardless of the method selected for budget purposes. The Ajax Company uses Method 2, but is in the process of obtaining indirect labor standards in order to utilize Method 3 in subsequent budgets.

BUDGETING FOR OTHER MANUFACTURING EXPENSE

Other manufacturing expenses consist of such items as fuel, operating supplies, utilities, maintenance material, expense tools, employee fringe benefits and payroll taxes, fixed charges such as depreciation, real estate and personal property taxes, and other miscellaneous expense items such as traveling, postage, rent, etc. The fixed and non-variable portion of the aforementioned expenses would be those expenses necessary to sustain the non-variable organization and would continue whether the plant was operating or idle. Good accounting records are essential for judicious budgeting in this area. Some of the items of expense will, of necessity, be budgeted on the basis of prior years' experience.

Other expense items are of a nature whereby standard usage can be developed by the Standards or Industrial Engineering Departments. This portion of the budget is also developed at the standard volume level, but the budget authorization that is developed for each accounting period will vary according to production. In the absence of standard usage, the straight line method is used to develop the budget authorization for the period; namely, the non-variable amount plus the variable amount. Standard usage budget authorization is computed by multiplying units produced by standard usage amounts per unit.

The budgeted variable rate is determined during the preparation of the budget and the various account rates remain constant throughout the budget period. The rate is computed by dividing the variable expense portion of the budget by account or series of accounts by the budgeted direct labor dollars. Examples of budgeting an item of expense, and developing budget authorization for that item during a given period, using both the straight line method and the standard usage method are as follows:

STRAIGHT LINE METHOD:

From previous experience, supported by historical records, the Budget Department ascertains that $50.00 per month should be budgeted as non-variable in the stationery and office supply account. Present experience indicates that the variable cost in this account has been $.0023 per dollar of direct labor, and the economic trend indicates that an additional $.0003 should be provided for in the budget during the next budget year. Figure 5 shows the computation of the annual budget for the stationery and office supply account.

(Fig. 5)

Annual non-variable budget (12 months @ $50.00 per month)	$ 600
Annual variable budget ($4,536,453 direct labor dollars x $.0026)	11,795
TOTAL	$12,395

ANNUAL BUDGET

Account	Description	Budget Variable Rate (%)	Non-Variable Monthly	Non-Variable Annual	Annual Variable	TOTAL
1281	Stationery & Office Sup.	.26	$50	$600	$11,795	$12,395

$\frac{\$11,795}{\$4,536,453} =$ .26% Budgeted Variable Rate

STANDARD USAGE METHOD

The non-variable amount of $50.00 as shown in Figure 5 is also used in this method. The Standards Department provides a variable amount of $.11 per unit produced including provision for the economic trend.

(Fig. 6)

Annual non-variable budget (12 months @ $50.00 per month)	$ 600
Annual variable budget (106,000 units @ $.11)	11,660
TOTAL	$12,260

ANNUAL BUDGET

Account	Description	Unit of Std. Usage	Non-Variable Monthly	Non-Variable Annual	Annual Variable	TOTAL
1281	Stationery & Office Sup.	$ .11	$50	$600	$11,660	$12,260

COMPUTATION OF BUDGET AUTHORIZATION

During a given month, 8480 pumps were produced which generated $362,916 direct labor authorization. Budget authorization for stationery and office supplies during this period computed by the straight line method and standard usage method is shown in the following examples:

Straight Line -	
Non-Variable	$ 50
Variable (362,916 x .26%)	944
	$994
Standard Usage	
Non-Variable	$ 50
Variable (8,480 units @ $.11)	933
	$983

Upon completion of the budget schedules for each department, the elements of Direct Labor, Indirect Labor, and Other Manufacturing Expense are accumulated on a budget summary form for each department. These summaries are then consolidated in order to arrive at a total plant budget which is submitted to the general office for consolidation into the total company budget. In the event that the total company budget is within the amount previously allocated for the Direct Labor and Manufacturing Expense portion of the sales dollar, the budgets as submitted by each of the Ajax plants are approved. Conversely, when the budgets exceed the amount allocated a further study is made, and certain or all plants may be required to submit budget revisions.

In conclusion, budget preparation should be a joint cooperative effort with all levels of supervision and the Standards Department participating with the Budget Department in order to arrive at a tight, but realistic, budget. As budgeting experience increases, certain refinements will be manifested annually that will add materially to management's foremost tool for effective control: the budget.

MEMBERSHIP REPORT

LOCATION	NO. OF MEMBERS AS OF 4/30/58	PRESIDENT'S GOAL FOR 6/30/58
TOTAL SOCIETY	905	989
BRIDGEPORT	22	25
CANTON	22	25
CHICAGO	103	100
CINCINNATI	33	41
CLEVELAND	56	55
DALLAS	34	40
DAYTON	14	24
DETROIT	34	35
INDIANAPOLIS	34	40
LOS ANGELES	36	39
LOUISVILLE	24	30
MILWAUKEE	65	65
NEW YORK	90	90
NO. NEW JERSEY	37	45
PHILADELPHIA	51	53
ROCKY MOUNTAIN	18	25
ST. LOUIS	29	35
SAN DIEGO	25	35
SAN FRANCISCO	38	37
TRI CITIES	19	25
TWIN CITIES	46	50
AT-LARGE	74	75

By: Gerald Wentworth
Assistant Professor of Accounting
Stanford University
Stanford, California

DETERMINING THE FEASIBILITY OF CAPITAL EXPENDITURES

Money spent wisely is money returned ten-fold. The author's warning regarding the determination in advance of the desirability of an investment in capital equipment should not go unheeded. Funds committed for capital expenditures are generally withdrawn from use for a long period of time, and, therefore, it behooves those guardians of corporations funds to insure the proper use of available techniques for measuring in advance the probable return on the investment. Alternative methods are described by the author, and a firm recommendation is proposed.

Capital expenditures have an impact on all Budget Men. Most will find that budgeting for these expenditures is one of your important functions. Some Budget Men have an additional function, that of determining whether or not such expenditures should be made at all. This latter duty is extremely important, one in which everyone has a direct or indirect interest.

In a free enterprise system such as ours, the rate of such expenditures directly affects the national economy, and indirectly the prosperity of virtually every enterprise. Within the firm, the wisdom with which capital expenditures are made determines the availability of capital for future use and hence the well being of the firm. Recurring day to day decisions, if wrong, have a temporary effect. Capital expenditures, on the other hand, tend to channel future activities along rigid lines for a protracted period.

Engineers and economists have devoted considerable attention to this area. I believe that budgeting men, with their direct knowledge of the relationships existing among projected earnings, depreciation, and taxes, should devote more attention to it. I am more confirmed in this opinion each time I read an article by otherwise very able men who seemingly lack this knowledge. It is not uncommon, for instance to read that in computations leading to a decision to buy machine B instead of keeping machine A, the "book value" of machine A should be ignored. You and I may agree that for many purposes the cost of machine A is a "sunk cost." But nevertheless, if A is traded-in on B, our tax laws are so constructed that the book value of A will modify the carrying cost of B, and hence will affect the allowable depreciation on B. We also know that if A is sold at a "book loss," the tax cushion effectively reduces the cash outlay required to acquire machine B, and vice versa.

However, equipment decisions, intriguing as they are, will not be considered in this article. These are more than worthy of separate discussions.

POLICY AND REGULATIONS AS DETERMINING FACTORS

Some capital expenditures are made which will not produce any directly measurable stream of earnings. These expenditures may be the result of company policy. Some examples of this could be:

1. Building an employee clubhouse.
2. Acquisition of facilities to round out a product line in order to meet competition.
3. Acquisitions of facilities to improve quality, again to meet competition.

Such expenditures may have been based on that dynamic new science, operations research. More often, they grow out of a conviction, based on experience, that they will be beneficial to the company.

Regulatory bodies rule that a capital ex-

penditure must be made. Thus, a utility might be ordered to extend service to a thinly populated area, where no forseeable profit to the utility exists.

Finally, many firms are chronically short of funds, a condition which at times does not correlate too closely with profitability. These firms often make capital expenditures on a "putting out the fire" basis. Feasibility here yields, too often, to necessity.

In order to hold this within manageable limits, let's assume that we are talking about your firm. You have available funds, you have freedom of choice in investing these funds. You are not considering replacing machine A with machine B, nor the possibility of leasing instead of buying. A proposal for expansion is under consideration.

STEPS IN THE FEASIBILITY STUDY

Step one of any feasibility study is an economic forecast. Obviously, in contemplating any long range investment, the profitability depends on future, not present, conditions. Right now, for instance, a maker of steel automobile springs would do very extensive forecasting for the market for these springs in the next two, five, or twenty years, before investing additional capital. Whether economic forecasting is formal, such as is done by utilities and other large firms, or off the cuff, such as has of necessity been done by many enterprises in the growing electronics field, the fact remains that forecasting must be done. All of us are familiar with the results of good and bad forecasting.

Step two is to estimate, as carefully as possible, the stream of earnings projected as a result of the expenditure.

Step three is the determination of what constitutes an adequate rate of return. In your own company, what should the cut-off point be? 10%, 15%, 20%?

Step four is the determination of the rate of return. How should the rate be determined? On the full investment? On the average investment? By cash pay-back? By the financial or discount method? Or by any of several other methods?

While these four steps make up the feasibility study proper, I should like to add a fifth step often neglected--the follow-up. Many firms have found that the quality of the "savings" or "profits" estimates submitted with A.F.E.'s improved very noticeably when follow-up studies of realization studies were instituted.

WHAT CONSTITUTES AN ADEQUATE RATE OF RETURN FOR YOUR COMPANY?

A great variation exists among companies in the manner of deciding what constitutes an adequate rate of return on capital expenditures. Frequently, no expenditure will be made if the return on a contemplated expenditure will fall below the historical rate of earnings on any one of several combinations of book figures. Some firms compute this rate on gross assets, some on net assets. Others use invested capital, still others use owners' equity. Familiar as all of you are with "accepted accounting principles," we need not belabor the point of the general inadequacy of either the balance sheet or income statement, particularly where they are to be used for internal decision making purposes. I propose, therefore, that you examine a newer concept gaining increasing attention--the cost of capital.

COST OF CAPITAL:

Any capital expenditure requires the use of long-term capital. Such capital can come only from three sources: from long-term debt, from new equity financing, or from retained earnings. If we can determine the cost of capital from these sources, this cost will represent the minimum rate of return required. Stated another way, money has a rental value.

Let's look at a specific corporation. The annual report shows its capital structure to be:

Long-Term Debt	$ 56,500,000	12%
Shareholder's Equity	420,000,000	88%
	$476,500,000	100%

We shall assume that the proportion of debt to equity capital appears about right to X corporation's directors, and that under ordinary circumstances will be maintained in about the same ratio. If this should not be the case, the cost of capital to X will require slightly different calculations.

Under present conditions, X corporation could sell bonds for about 4%, for an after tax cost of funds from this source of about 2%.

If X should decide to raise money by a new stock issue, this capital should be employed in such a manner that the present shareholder would suffer no dilution in their earnings per share. Corporations' earnings approximate $5 per share. Thus, new equity capital should also earn $5 per share. The market tends to capitalize X's earnings by a multiplier of 10, since the stock tends to center around a $50 price. Thus, the after tax cost of equity capital is 10%. A change in dividend pay out rates as well as change in the industry and the firm's economic position would, of course, most probably result in a different equity capital cost.

Suppose X company uses the third major source of capital, retained earnings. This represents an involuntary investment on the part of the shareholder, and he is entitled to the same return as though he had made voluntary investment. Every time that X company withholds $1 of

earnings from a shareholder, that shareholder has the right to expect earnings on that dollar to be sufficient to increase the market price by $1. Again, this means a return of 10%, after tax.

Now in any company it is fallacious to equate debt or equity capital with any particular outlay. In X company's case, it would be true that additional debt capital could be employed at a low rate of return and still increase the earnings per share. But if the proportion of debt to equity capital is to be maintained, then an exactly similar investment related to new equity capital or retained earnings would have to bring a very much higher return. Thus it is sounder to consider these capital sources as constituting a common pool of capital. For X Company, the weighted cost of capital to this pool of debt and equity funds is 9.04% after tax, or about 18.1% before tax.

In short, 18.1% before tax is a guidepost. This does not mean, necessarily, that all the firm's capital must secure this rate of return. Some operations will undoubtedly return less, some return more. But to grow, to offset ventures that do not pay out, or pay less than this, the target might well be 20% or higher.

Some implications follow from the adoption of this cost of capital concept. This cost of capital concept requires a reorientation of some accounting thinking. It has been very useful to embrace the entity theory in accounting--the business as an entity being distinct from ownership. Pushed to an extreme, as it has been at times, this means that the greater the net income to the entity, the more successful it is. But you will all agree, I think, that this is simply not so. In fact, most large incorporated businesses are agencies for the investment of the owners' capital. Under the cost of capital concept a return of capital to the owners, where no future opportunity to invest at an adequate rate can be foreseen, is required.

Let us now turn to the second problem, the calculation of the rate of return.

CALCULATING THE RATE OF RETURN

A poll of the companies represented by the readers would undoubtedly disclose several methods used in computing the rate of return. Some of the more common are:

Original investment
Average investment
Cash pay back or pay out
Financial, or discounted cash flow

All have their limitations. The sole limitation of the discount method, its difficulty, is greatly exaggerated. Compared to the built-in fallacies of the other methods, this is a very minor objection. By use of tables and a desk calculator, none of the examples which follow would take more than 15 minutes or so to compute. This surely represents a very small amount of time to devote where the results are so important.

In the following examples, Case 1 and Case 2, a 12 ½% after tax minimum return has been set. An investment in new facilities of $100,000 is proposed, with varying assumptions as to the stream of earnings and the life of the project.*

*For simplification, the additional working capital required to support the expansion is ignored. Actually, of course, this should be taken into account, for an adequate return must be secured on working as well as fixed capital.

Case 1.

Constant earnings before depreciation and maintenance. (10 year life)

Double declining balance used for depreciation; increasing maintenance costs. Original investment $100,000.

(1) Year	(2) Earnings, Before Maint. & Depreciation	(3) Maint.	(4) Dep'n	(5) Taxable Income (2)-[(3)+(4)]	(6) Income Taxes (50%)	(7) Net After Taxes	(8) "Cash" Earnings (4) + (7)
1.	$ 25,000	$ 500	$ 20,000	$ 4,500	$ 2,250	$ 2,250	$ 22,250
2.	25,000	500	16,000	8,500	4,250	4,250	20,250
3.	25,000	1,000	12,800	11,200	5,600	5,600	18,400
4.	25,000	1,500	10,240	13,260	6,630	6,630	16,870
5.	25,000	2,000	8,192	14,808	7,404	7,404	15,596
6.	25,000	2,500	6,554	15,946	7,973	7,973	14,527
7.	25,000	3,000	6,554	15,446	7,723	7,723	14,277
8.	25,000	3,500	6,554	14,946	7,473	7,473	14,027
9.	25,000	4,000	6,553	14,447	7,223	7,224	13,777
10.	25,000	4,500	6,553	13,947	6,974	6,973	13,526
	$250,000	$23,000	$100,000	$127,000	$63,500	$63,500	$163,500

Return on original investment: $\frac{\$63,500}{\$100,000}$ = 6.35% per year.

Return on average investment: $\frac{\$63,500}{\$50,000}$ = 12.7% per year.

Cash pay back = 5.46 years, or 18.3% per year

Discounted, values at mid-point = 13%

13% Factor	x Amount	Present Value
.941	$22,250	$20,937
.832	20,250	16,848
.737	18,400	13,561
.652	16,870	10,999
.577	15,596	8,999
.511	14,527	7,423
.452	14,277	6,453
.400	14,027	5,611
.354	13,777	4,877
.313	13,526	4,234
	$163,500	$99,905

Case 1 represents constant earnings before maintenance and depreciation, over a ten year life, no salvage value. Maintenance increases; depreciation is calculated by the double declining balance method. Column 7 shows the after tax net, and column 8 the "cash" earnings, which will, of course, be higher than the after tax net by the amount of the original investment of $100,000.

By the original investment method, the return in Case 1 is 6.35% a year. This method fails to take into consideration that some portion of the original investment is being recovered continually. While $100,000 is the original value, at the end of the 10th year it will be $0. For this reason, return on the average investment of $50,000 is a better method. This return is 12.7%, or high enough to exceed our assumed 12 ½% cut-off point. However, this method, as well as the first, places no time value on money. In effect, these methods say that a dollar a year for ten years is worth precisely ten dollars today, equivalent to saying that the money has no rental value, and that interest rates are 0%. None of us would agree to this sort of proposition in our private lives. There should be no reason, then, that this thinking should apply in business.

Cash pay back, in Case 1, comes to 5.46 years. So far, so good, if cash payback or the "payout" is confined to a time period. If two alternative investments have the same rate of return, the one with the shorter pay back period often will be preferred, since near-term projections should be the more accurate. The fallacy lies in conversion to a per cent, in this case 18.3%. If all earnings ceased at the end of 5.46 years, this method would still give 18.3%, precisely as it would if earnings continued indefinitely.

But money does have a definite time value. The only method that recognizes this is the "present worth" method, which in effect says that at any given rate of interest, a dollar in the future has a lesser but definitely ascertainable value today. This method is known by other names, such as the "financial," or "discount" method. To arrive quickly and easily at the rate of return by this method involves the use of tables or graphs. Otherwise the method can be tedious.

Most present worth tables assume that a dollar investment today will return a lump sum at the end of each of "n" years from today. The tables used in the following examples are somewhat different, the values being centered at midyear. "Centered" tables are used in the following cases because, presumably, earnings are spread more or less uniformly throughout the year, not coming in a lump sum at the end of a year. But lump sum tables can be used with the assurance that they will give better results than any of the methods first considered.

Present Worth Table

Values Concentrated at Midpoint of Year
$1 discounted, as single payment; and as continuous $1 payment per year

	11%		12%		13%		15%	
Year	Single	Continuous	Single	Continuous	Single	Continuous	Single	Continuous
1	.949	.949	.945	.945	.941	.941	.933	.933
2	.855	1.804	.844	1.789	.832	1.773	.811	1.743
3	.770	2.575	.753	2.542	.737	2.510	.705	2.448
4	.694	3.269	.673	3.214	.652	3.162	.613	3.062
5	.625	3.894	.601	3.815	.577	3.739	.533	3.595
6	.563	4.457	.536	4.351	.511	4.249	.464	4.058
7	.507	4.965	.479	4.830	.452	4.701	.403	4.462
8	.457	5.422	.427	5.257	.400	5.101	.351	4.812
9	.412	5.834	.382	5.639	.354	5.455	.305	5.117
10	.371	6.205	.341	5.980	.313	5.768	.265	5.382
15	.220	7.576	.193	7.280	.170	6.870	.132	6.271
20	.131	8.390	.110	7.905	.092	7.467	.066	6.712

In Case 1, to arrive at a discount rate first compute the return on average investment. Since this comes to 12.7%, the next step is to try a discount rate close to this, or slightly higher since the cash earnings (column 8) are larger in the earlier years. The flow of cash is used, for the rationale is simply this: here is an outlay of $100,000, and here is the cash return which must not only recover the outlay but provide a profit in addition. Note that although most tables give values to 7 or 8 or more places, only three places are used here. Since cash earnings are at best informed estimates, using factors with a large number of places seems totally unnecessary, since it imputes unwarranted accuracy to the result.

The result of the use of the 13% factors

indicates that the present value of the stream of cash earnings projected is slightly less than $100,000, an "over-discount." Then the "true" rate must be somewhat less than 13%. But it is so close that a very minor change in the estimates would make the present value $100,000, so for our purposes the rate of return is 13%, and the proposal would qualify.

Case 2.

Constant earnings before depreciation and taxes.
Straight-line depreciation. Original investment, $100,000, 10 yr. life.

(1) Year	(2) Earnings Before Maint. & Depreciation	(3) Maint.	(4) Dep'n	(5) Taxable Income	(6) Income Taxes	(7) Net after Taxes	(8) "Cash" Earnings
1.	$ 25,000	$ 500	$ 10,000	$14,500	$ 7,250	$ 7,250	$ 17,250
2.	25,000	500	10,000	14,500	7,250	7,250	17,250
3.	25,000	1,000	10,000	14,000	7,000	7,000	17,000
4.	25,000	1,500	10,000	13,500	6,750	6,750	16,750
5.	25,000	2,000	10,000	13,000	6,500	6,500	16,500
6.	25,000	2,500	10,000	12,500	6,250	6,250	16,250
7.	25,000	3,000	10,000	12,000	6,000	6,000	16,000
8.	25,000	3,500	10,000	11,500	5,750	5,750	15,750
9.	25,000	4,000	10,000	11,000	5,500	5,500	15,500
10.	25,000	4,500	10,000	10,500	5,250	5,250	15,250
	$250,000	$23,000	$100,000	$127,000	$63,500	$63,500	$163,500

Return on original investment: $\frac{\$63,500}{\$100,000}$ = 6.35% per year

Return on average investment: $\frac{\$63,500}{\$50,000}$ = 12.7% per year

Cash pay back = 5.94 years, or 16.8% per year

Discounted, values at midpoint:	12% Factor	x Amount	Present Value	11% Factor	x Amount	Present Value
	.945	$ 17,250	$ 16,301	.949	$ 17,250	$ 16,370
	.844	17,250	14,559	.855	17,250	14,749
By approximate interpolation rate is 11.7%	.753	17,000	12,801	.770	17,000	13,090
	.673	16,750	11,273	.694	16,750	11,625
	.601	16,500	9,917	.625	16,500	10,313
	.536	16,250	8,710	.563	16,250	9,149
	.479	16,000	7,664	.507	16,000	8,112
	.427	15,750	6,725	.457	15,750	7,198
	.382	15,550	5,940	.412	15,550	6,386
	.341	15,250	5,200	.371	15,250	5,658
		$163,500	$ 99,090		$163,500	$102,650

Case 2 is identical to Case 1, except here depreciation is on a straight line basis. The return on the original investment and on the average investment is identical with Case 1. If 12 ½% is the cut-off point as computed on the average investment, both Case 1 and Case 2 would qualify. This is not so when the return is computed on a discount basis. Twelve per cent is obviously too great a discount rate, since the cash flow at a 12% discount has a present value of only $99,090. Eleven per cent is too small a discount, since the same cash-flow has then a present value of $102,650. The correct rate lies somewhere between. Again to avoid spurious accuracy an approximate interpolation will suffice, making the rate about 11.7%.

Cases 1 and 2 dramatize the effects of double-declining depreciation as compared to straight line depreciation. It illustrates well the old adage about the bird in hand.

Both cases 1 and 2 represent comparatively short-lived assets, and as a result the discounted value of the cash earnings is not too far from the return on average investment. The differences between these methods grows, however, (1) as the time period grows, and (2) as the cash-flow is heavier with the more distant years. Cases 3.1, 3.2 and 3.3 illustrate this.

Case 3.
Required return 15%. Project has 20 year life.
Investment required under differing assumptions as to earnings.
Factors are centered.

3.1

	Earnings, after tax before dep'n each year	Discounted at 15% Factor	Amount
1st 5 years	$ 5,000	3.595	$(17,975)
2nd 5 years	10,000	5.382	(26,910)
3rd 5 years	15,000	6.271	(31,355)
4th 5 years	20,000	6.712	134,240
	$250,000		$ 58,000*

*Present value of $20,000 for 20 years, less present value of $5,000 for 15 years, less present value of $5,000 for 10 years, less present value of $5,000 for 5 years.

Return on Average Investment	
Average annual income, after taxes, before dep'n	$12,500
Deduct: Depreciation	2,900
Ave. Annual income	$ 9,600

Return = $ 9,600 / $29,000 = 33%

3.2

Years 1 - 20	$ 12,500	6.712	$83,900
	$250,000		$83,900

Average annual income, after tax, before dep'n	$12,500
Deduct, depreciation	4,195
Ave. Annual income	$ 8,305

Return = $ 8,305 / $41,950 = 19.8%

3.3

1st 5 years	$20,000	3.595	$17,975
2nd 5 years	15,000	5.382	26,910
3rd 5 years	10,000	6.271	31,355
4th 5 years	5,000	6.712	33,560
	$250,000		$109,800*

*Present value of $5,000 for 20 years, plus present value of $5,000 for 15 years, plus present value of $5,000 for 10 years, plus present value of $5,000 for 5 years.

Average annual income, after tax, before dep'n	$12,500
Deduct, depreciation	5,490
	$ 7,010

Return = $ 7,010 / $54,900 = 12.8%

N.B. In cases 3.1 and 3.3, a method similar to that shown in cases 1 and 2 could be used. The calculations shown here are merely shortcuts.

In Case 3.1, earnings increase over the life of a twenty year project; in Case 3.2 they remain constant; in Case 3.3 they decrease over the twenty year life span. The total cash earnings in all cases are the same, $250,000, and in all cases these earnings have been discounted at 15% to arrive at a present value. In case 3.1, although the cash returned is $250,000 over twenty years, at 15% this cash stream is equivalent to a $58,000 investment today. In Case 3.2, because more dollars are received in the near future, the investment value is raised to $83,900. In case 3.3, where the cash flow starts heavy and diminishes, we could invest $109,800 and still have a 15% return.

It is interesting to note that while on the discount basis alone, all these investments have an identical return, by the average investment method case 3.1 is far more than twice as profitable as case 3.3. Yet if, in order to minimize risk, cash payback is used to select alternatives having identical returns, case 3.3 would be selected. Here the cash payback is 5 2/3 years as opposed to 8 1/3 years for case 3.1 and 6.7 years for case 3.2. Actually, of course, such factors as the total amount of funds available and the probable future investment opportunities would be factored into any election process.

I think that you will agree that considering the importance to the firm of making capital investments as wisely as possible, the present value method should be adopted for calculating the rate of return, most particularly when fairly long time spans or uneven earnings are involved. As to its overrated "difficulty", a wise man of 2,500 years ago, Pythagoras, said: "Choose always the way that seems best, however rough it may be; custom will soon render it easy and agreeable." -

This world is not so bad a world
As some would like to make it;
Though whether good, or whether bad,
Depends on how we take it.

--------Michael Beck

By: Thomas S. Dudick
Budget Director
Allen B. DuMont Laboratories, Inc.
Clifton, New Jersey

THE VARIABLE BUDGET
A Modern Tool For Overhead Control

A previous article stressed the technical aspects of developing a flexible budget, and now this article emphasizes the value of the variable budget for overhead control. The need for and the end use demands the greater attention in this article, however, the author also recommends certain short-cuts in preparation which may also prove of particular interest to budget men contemplating the installation of a Variable Budget.

In the early days of the Industrial Revolution, as more and more power equipment came into use in manufacturing operations, depreciation and maintenance entered into the picture as a new type of overhead to be reckoned with in determining product costs.

However, the problem of allocating overhead to the product was not too difficult because, as a rule, each machine was operated by a full-time operator and overhead was readily tied in with the labor which incurred the cost.

The Industrial Revolution Comes of Age

In the 1920's the Industrial Revolution entered the phase called Mass Production. As time went on technology improved by leaps and bounds and we are now experiencing an advanced phase called automation.

Instead of an operator running one machine, he can now operate a battery of machines. . .in many instances tapes put into an electronic control will actuate a battery of equipment with no direct operators. As a result of these developments, manufacturing facilities have become much larger and more expensive in order to provide adequate housing for this equipment and the various supporting services such as compressed air, electricity water and gas.

In addition to machine related overhead, more intricate scheduling and planning is required. Material purchases must be planned in advance and facilities provided for storage of the material until needed. Facilities for packing and temporary storage of the finished product prior to shipment must also be provided. And all through the production operation, the quality of the product and the tooling which makes the product must be evaluated and controlled.

Direct labor has shrunk to the point that it is the smallest rather than the largest of the three elements of cost; so small in fact and frequently so non-representative of productivity that it is often supplanted by machine hours as a base for application of overhead.

A larger and larger portion of the overhead has become fixed so that time, rather than volume of production, is the significant factor in cost incurrence. As fixed cost becomes more and more predominant a factor in manufacturing, volume of sales becomes increasingly significant because the cost per unit becomes lower as volume increases.

The Variable Budget - Outgrowth of the Industrial Revolution

With the advent of the variable budget which came into use in the 1920's, fixed costs became known and it was possible to make profit-volume analyses to determine the minimum level of sales needed to break even. More accurate budgeting likewise became possible because fixed costs could now be budgeted according to passage of time while the variable costs were tied in with volume of production.

However, the installation of the variable budget introduces several problems which plague every installation. It is the purpose of this paper to discuss these problems and to outline a course

of action which this writer has found most effective in achieving the answers.

Dynamic Management needs information quickly

While most new installations customarily take from six months to a year, the management which is motivated by competitive pressures to install a variable budget is oftentimes also the management which expects that this will be accomplished in a matter of weeks rather than months. In reply to expressed doubts, management will quite effectively point out that model changeovers often require complete relayouts of manufacturing areas, installation of new equipment, and the retraining of hundreds of people and that the entire changeover is usually completed within a 6 to 8 week period. Management will point out further that some of the answers which will be forthcoming through profit-volume relationships should have been available BEFORE the model changeover rather than after.

It is therefore more feasible to find a way to shorten installation time than to try to gain a greater time allowance. Using this as a basic premise, let us now investigate the mechanics of the installation and methods by which time-consuming analysis can be reduced.

At the risk of over-simplification, the variable budget can be defined as an estimate of overhead required for attainment of a certain level or levels of production activity. The estimate or estimates, depending on the number of levels used as a basis for the budget are broken down in such fashion that the fixed costs and variable costs are determined by account.

Major costs warrant maximum attention

In the development of budget estimates one must usually deal with anywhere from 50 to 150 different classifications of expenses. While this may seem like a formidable array of expenses which must be estimated, an analysis will invariably show that less than a dozen of these will account for 85 to 90% of the overhead.

Depreciation, equipment maintenance, occupancy costs and indirect labor with its associated fringe benefits, will usually account for 70% to 80% of the total.

Depreciation is a fixed cost and is readily calculable. Usually a property clerk has this information broken down by cost center.

Maintenance on existing equipment is known from past records. This can safely be considered a variable cost because like an automobile, the greater the usage of the equipment, the more wear and tear. Maintenance on new equipment must be estimated and past experience on similar equipment will help.

Occupancy is treated as a fixed cost because the bulk of this overhead is rent - equivalent cost. While some of the occupancy cost is variable in nature, the variable portion is so small in proportion to the fixed that it can be considered 100% fixed in the initial installation.

Indirect labor with fringe benefits accounts for 60 to 65% of the total overhead pool. Variable budget installations are frequently stalled waiting for organization charts to be issued in cases where a basic change in organization has been made. However, it will be found in most instances that department heads are in a position to discuss the new organization and will do so even though time has not permitted the formalization of the organization on official organization charts. Because indirect labor is so large an item of cost an illustration will be given on the procedure for determining fixed & variable costs in a later section. With depreciation, occupancy, maintenance, and indirect labor disposed of, the remaining 45 or more accounts can be evaluated in order of importance. Since this remaining group will account for only a fraction of the total overhead cost the amount of detailed analysis devoted to it can be kept at a minimum.

Separation of fixed and variable costs

The separation of fixed and variable costs for those items of cost which are not clean-cut fixed or variable is one of the time consuming operations in developing a variable budget. Because this is the heart of the installation, it will be discussed in some detail.

The generally accepted methods are reviewed below and the advantages and disadvantages of each discussed.

1. Straight-line method using scatter charts as the basis for separating the fixed and variable.
2. Straight line method using low and high estimates and calculating the fixed and variable costs mathematically.
3. Step method (capacity budgeting)
4. Direct analysis method (variation of the straight-line method)

Straight-line method using scatter charts. Scatter charts are based on past experience. This means that future budgetary controls may tend to be influenced by past history, which in today's fast moving economy would not be representative or indicative of future trends.

In addition, preparation of scatter charts requires skill in charting. The use of incorrect scales will result in meaningless patterns to which a line of variability cannot be fitted. Usually, a fair amount of trial and error is required before proper scales are selected. This is time-consuming.

Straight-line method using the mathematical computation of variable and fixed costs. Under this method the expenses are determined at two levels of operation--usually at the extremes of the normal operating range. Then, mathematically, the variable percentage is determined by relating the difference in expense between the two levels to the difference in the direct labor between the two levels (assuming that direct labor is used as the base). Determination of the fixed cost then becomes a matter of multiplying the variable percentage by the direct labor at low or high level to obtain the variable expense. The balance is fixed.

The disadvantage of this method is that low and high volume, because they do not represent actually experienced levels of operation, on a sustained basis are not representative. Estimating the expense at these levels is less accurate then at an experienced level.

Another disadvantage is that operating people whose activities are being controlled cannot understand why the fixed cost determined in this manner cannot be identified with specific people in instances where indirect labor is being budgeted.

Step Method

Theoretically, this is the most equitable method for development of the variable budget, but practical considerations rule it out because it requires determination of expenses for 6 or 7 levels. It is difficult enough under the straight line method to determine estimates for two levels without attempting to forecast 6 or 7.

Also, in the application of the results obtained from the step method, interpolation is required in the event that the production level being budgeted falls midway between two capacity levels.

DIRECT ANALYSIS METHOD

The method instituted at Du Mont is the direct analysis method wherein each indirect employee and each expense account of any significance is analyzed and the fixed and variable costs determined in direct consultation with the various department heads. The method is direct, simple, and easily understood by the people whose operations are being controlled.

The first step is to determine the level of activity for which the estimates will be made. This should be a recently experienced level, the results of which are fresh in mind, rather than some hypothetical level which is difficult for the operating people to visualize. For this example let us assume that we are setting up a variable budget for the material control department of the Automotive Products Division which manufacturers the electronic engine analyzer. Let us assume that recent experience is based on the manufacture of 300 EnginScopes per week so this will be the level of activity used for determining the fixed and variable costs. Any deviation from this 300 per week level can be compensated for by application of the fixed and variable formula to the actual volume level. Direct labor is the budget base to be used in this example. Let us assume further that the amount of direct labor for this level comes to a payroll of $87,000 per week.

Estimating the overhead. We are now concerned with the determination of how much indirect labor is needed in order to service a productive level of 300 EnginScopes weekly. The material control dept. will be used as a basis of illustration.

In discussing the personnel requirements with the department head, we find that after elimination of 2 extra people who were needed on a temporary basis, his estimate of requirements for the 300 per week level is as follows:

Job Classification	Number of Employees	Total Weekly Payroll
Section head	1	$140
Secretary	1	80
Planners	5	450
Material Handlers	8	600
Storekeepers	5	400
Total	20	$1670

Now that we know how much indirect labor is needed to service a production level of $87,000 in direct labor, the next step is to break the cost down into the fixed and variable portions.

Breaking out the fixed.

First, it should be emphasized that fixed costs used for budgeting should be those costs which remain constant within the normal range of operations rather than minimum or standby costs at zero activity. With this as a background let us assume that the department head lists the following personnel as being fixed within the normal range:

Job Classification	Number of Employees	Total Weekly Payroll
Section Head	1	$140
Secretary	1	80
Planners	2	230
Material Handlers	1	80
Storekeepers	1	96
Total	6	$626

Calculating the variable

Now that the total payroll for Material Control and the fixed portion are known, we can arrive at the variable by simply subtracting the fixed from the total, with the following result:

Job Classification	Number of Employees	Total Weekly Payroll
Planners	3	$220
Material Handlers	7	520
Storekeepers	4	304
	14	$1044

At this point we know that the fixed portion of the material control department will be budgeted at $626 per week. Our problem is to find a basis for budgeting the variable portion. Since the variable costs will fluctuate with production activity, it would seem logical to relate the variable cost as a percentage of direct labor. Dividing $1,044 by $87,000 gives us a variable percentage of 1.2% of direct labor cost.

Use of the Variable Budget for Control

A self-conducted survey of the use put to the variable budget by 25 companies in the metropolitan area revealed that practically all the companies devoted their full energies to comparing actual with budget at monthend in conjunction with issuance of the statements. The individuals interviewed indicated that outside of some profit volume analysis work, the variable budget was not used for budgetary control for periods shorter than a month - the all-out effort being made at monthend in order to explain the P & L results.

Because this budget comparison cannot be completed until about the middle of the month following the closing, the usefulness of such historical information to management is highly questionable.

A weekly comparison of budget with actual for indirect labor would mean that the predominant portion of the overhead would be controlled on a weekly basis. The remaining overhead could be controlled on a monthly basis with little loss of timeliness.

In demonstrating how the weekly budgetary control of indirect labor would work let us use the figures calculated previously. First, let us assume that the actual payroll for the Material Control Department for week ended August 30 amounted to $2,250 and that the production level expressed in terms of direct labor amounts to $122,000. Multiplying $122,000 by 1.2% gives us a variable allowance of $1,464. This, added to a weekly fixed allowance of $626 totals $2,090. Since the actual cost of the Material Control Department amounted to $2,250 and the budgeted allowance $2,090, the budget was exceeded by $160. Analysis of the variance should quickly reveal whether the excess is due to keeping too many people on the payroll or if excessive overtime was incurred. (In this instance no allowance was made for overtime because the operation is basically a one-shift operation.)

Summary

With competitive pressures becoming more and more intense management needs modern tools for analysis and needs the information before the fact.

The variable budget is an important means of giving management its answers because breakeven points are affected by the amount of fixed cost, (as well as other factors.) The development of a variable budget need not be a detailed evaluation of every expense listed in the Chart of Accounts. A small percentage of the expenses usually always account for a major portion of the overhead. Concentrated effort on these few with a more arbitrary approach to the smaller items will greatly speed up an installation without sacrificing accuracy.

An installation to be useful to management must be understandable. Separation of fixed and variable costs on some mathematical or statistical basis which loses the identity of specific jobs introduces an element of uncertainty in the mind of the operating man. Each question which raises a doubt slows progress and minimizes the effectiveness of the tool.

Even after an overhead budget is approved by management it must be constantly evaluated in the light of changing economic conditions.

Only through such watchfulness will management be in a position to anticipate the effect of changing conditions and to take the action necessary to cope with them.

ABOUT OUR AUTHORS

THOMAS S. DUDICK – The Variable Budget A Modern Tool for Overhead Control - is Budget Director for Allen B. DuMont Laboratories, Inc. of Clifton, New Jersey. Previously, he was Budget Supervisor for the Propeller Division of Curtiss-Wright Corporation. Prior to that he was associated with Sylvania Electric Products. Mr. Dudick is a graduate of New York University and is an Associate Director of the National Association of Accountants. He has written several articles which have appeared in the National Association of Accountants Bulletin and in industry publications.

FREDERICK JANSSEN – Budgeting in Switzerland is Controller of the Northeastern Division of Bausch & Lomb Optical Company and located at Philadelphia, Pennsylvania. Mr. Janssen also is a graduate of New York University. He is a CPA in New York State, and in addition to being a member of the Philadelphia Chapter of NSBB, he holds memberships in the American Institute of CPA's, Controllers Institute, and National Association of Accountants. Mr. Janssen is a repeat performer to Business Budgeting, as he had previously had an article published in the March, 1955 issue.

NEWS ABOUT MEMBERS

MARSHALL HOYT of the Bridgeport Chapter has moved up from Controller to Vice-President and Treasurer of Nash Engineering Co., Norwalk, Connecticut.

LEONARD PERRINI, Budget Accountant of Raybestos Division of Raybestos Manhattan, Inc., Statford, Connecticut was selected to fill the vacant Secretary's job at the Bridgeport Chapter for the balance of the 1957-1958 chapter year.

REID McCRUM, St. Louis Chapter President, addressed both the St. Louis Chapter of the Systems and Procedures Association and the Controllers Institute at recent meetings of these groups. His topic was "Capital Expenditures Budgeting."

At the American Management Association Academy at Saranac Lake, New York an Orientation Seminar on Building An Over-All Budget System for Profit Planning was held this Spring, and NSBB members practically took-over the sponsorship. **WALTER R. BUNGE** served as Chairman, and was assisted by **CHARLES S. HOLSTEEN, VERNON RUTTER, JOSEPH GRIMM, JR.** and **JOSEPH S. HILES.** A non-member Robert C. Trundle rounded out the program speakers.

The University of North Carolina and the University of Illinois have been added to the mailing list of libraries receiving gratis copies of BUSINESS BUDGETING.

JOHN PROESCHEL of the San Diego Chapter addressed the San Diego Chapter of the National Machine Accountants Association.

The Executive Recruitment Manager of Montgomery Ward forwarded a thank you note to our National Administrative Secretary for aiding in their search for a Corporate Budget Director. The position was filled by **OWEN MELAUGH** of the New York Chapter, who is now located in Chicago.

FRANK GURGONE, President of the New York Chapter, was selected by his company to attend the thirteen week Advance Management Course at Harvard University.

JOHN DeLUCA and **BOB HENCK** joined Remington Rand as Budget Director and Budget Assistant respectively. They have taken on a very interesting assignment to coordinate the budget activities for this company at the executive level.

ARDEN HARDGROVE, formerly of the Louisville Chapter, is now a member of the New York Chapter having been transferred there by Joseph E. Seagram Sons, Inc.

GEORGE W. WILSON, the most recent member of the Cincinnati Chapter, has been promoted to Controller of Processed Foods, Manufacturing Division of the Kroger Co.

Congratulations are in order for **C. C. BENEDICT** who has been appointed Controller of the Chrysler Division.

The Society is indebted to **AL WEISS** for sacrificing his files of early copies of the NSBB Technical Notes so that we could complete a full set of the Publications issued by the society.

HAL COLTMAN, President of the Los Angeles Chapter, was a feature speaker at a meeting of the San Fernando Valley Chapter of the N.A.A.

HAP GRAY of the Los Angeles Chapter attended a two week management training course at the University of Washington.

In April, the Cleveland and Canton Chapters held a joint meeting to hear Mr. E. H. Smedley of Stevenson, Jordan and Harrison, Inc., speak on the Profit-Volume Relationship.

Back in March, **GEORGE W. JACKSON,** Treasurer of the Philadelphia Chapter, served as chairman at an AMA Workshop Seminar in New York City covering the Functions and Organization of the Budget Director's Job.

Congratulations to **ALVIN H. WEISS,** who has been appointed Tax Manager of Harnischfeger Corporation of Milwaukee, Wisconsin. Al was one of the founders of the National Society for Business Budgeting and Editor of Technical Notes, predecessor to Business Budgeting.

The CINCINNATI Chapter has been asked by Junior Achievement of Greater Cincinnati, Inc. to provide assistance in the preparation of the yearly operating budget and to issue periodic reports on the performance against budget.

Did you change your address? Mel Aichholz, our Executive Secretary would appreciate prompt notice of your move, so that the organization records can be kept up-to-date. Send new addresses to him at P.O. Box 1, Covington, Kentucky.

By the time this issue of Business Budgeting is mailed, we probably will have two new chapters. Both HARTFORD, CONNECTICUT and HOUSTON, TEXAS are about to be officially inducted into the NSBB fold.

Left to right: LEN DISIS, STAN BAUM, LEW LANDRETH, CHARLES ECKELKAMP and CHUCK HOLSTEEN

The CHICAGO Chapter is looking forward to repeats of the successful seminar they held this spring. Pictures at the right are scenes from the event. STANLEY A. BAUM of The Herst-Allen Co. served as Seminar Chairman, with LEWIS B. LANDRETH and CHARLES S. HOLSTEEN as Discussion Leaders.

Leaders and Participants

ATTENTION Chapter Secretaries! Please mail the names of the New Officers of your Chapter to Ye Editor, so that we can publicize them in a future issue of Business Budgeting. Send them to Larry Haverkamp, Trailmobile, Inc., 31st & Robertson Sts., Cincinnati 9, Ohio.

By: R. N. Lyon
Standard Oil Co. (New Jersey)
New York, New York

HISTORICAL RETURN ON INVESTMENT AS A MANAGEMENT TOOL

Keeping finger-tip control over far-flung installations requires, as a prerequisite, a basis for determining when corrective action is indicated. The author describes one simple basis for appraisal utilized in the oil business-Historical Return On Investment. Comparative data on various operations matched against forecasted results and then followed-up with a year-to-year comparison of return on investment gives a clear indication of trends in results. A projection of trend data may then afford the best indication of required corrective action. Perhaps you can adapt the methods and illustrations described for a solution to this perplexing problem in your business.

Today's Comptroller's Departments rather generally have a responsibility for reporting the financial performance and prospects of individual units of their companies, as well as for their Company as a whole. They are not held responsible for the operating reasons behind results going this way or that, but they are held responsible for the reporting figures which are a fair representation or index of what has happened or is expected to happen. In the minds of people reviewing reported results, an important factor is often the relationship of individual new proposals to overall projected results, or to historical results. Such a group may be leaning to the side of obtaining agreement to new investments, with the attitude, "let's build this project because it shows a higher rate of return". By implication, the overall result is to be a higher rate of return in the future than is presently being earned. On other occasions there may be a review of actual results, finally coming down to some measurement of return on investment. Since it is hard to find examples of increasing overall returns, and the majority trend seems to be downward, management must be puzzled as to why all the brave new proposals can't be traced into an improved net result.

I suppose this problem is fairly common to all our experiences. As Comptrollers, we probably do not solve the problems, but we are responsible for pointing out to management where solutions are needed. I have prepared a typical illustration for discussion, hoping that it will serve as a catalyst which will start a broad discussion.

First of all, I want to emphasize that this particular illustration is designed as a practical solution for this particular problem. There may be other solutions, but this one is premised on using the type of data usually readily available under ordinary accounting procedures. In theory, more perfectly logical bases might be used, but for this discussion a simple approach has been taken.

RETURN ON INVESTMENT IN THE OIL BUSINESS

The oil business today operates all the way around the globe. Until recently, only a relatively few U.S. companies had extensive foreign operations, but that situation is now changing rapidly. The prospects thus seem to be for many more widely spread operations, which will require more emphasis on de-centralized management. No doubt the relative sizes and importance of such new undertakings will also span a wide range. Many difficult problems, both operating and financial, are likely to arise, with communication and control becoming complicated.

Forms of organization will undoubtedly show many diversities, depending on the situation, need and "personality" of the parent entities. No matter what the organization is or may be, top management expects adequate reporting of past and projected accomplishments. The exact extent and detail of such reporting is, again, subject to the character of organization, decentralization and "personality" of the company.

I sense that many of us are on the lookout for a universally applicable and definitive yardstick which can be applied at all times and in all situations. So far as I know, these efforts so far have all resulted in re-affirming that these matters are relative. Therefore, reliance is placed on being sensitive to rising or falling trends, not only a rise or a fall in absolute terms, but in relation to trends or other units or to the general situation of industry.

There is a wide concensus of opinion as to the validity of return on investment being the single most determinate financial measure. Most methods of evaluating proposed investments are based on it, and it is used by the investment community as a means of judging the value of corporate wholes, including the effects of new ventures after returns are being realized on them.

Between an individual project and a corporate result is a difficult and irregular territory. To keep this before Management, and with cash flow in mind, it is suggested that reports to Management should include cash operating earnings, and that these be related to a corresponding measure of investment such as gross plant plus inventories and receivables. Whatever basis is used, it should be applicable with reasonable consistency to all entities or segments reported on, at whatever level. The suggested method would provide for reporting a projected return on investment on a basis essentially comparable and consistent with the basic principles used in appraising existing and proposed new facilities. The result for the entire entity or group can be shown on this basis, and the relationship to return of net profit on net worth can presumably be analyzed.

This type of information, to be of maximum utility, should be presented periodically as a trend, opening with recent historical years and carrying through a forecast period. When a year becomes history, comparisons may be made of that year with projections which had been made at an earlier time. With this plan the combined effect of proposed future investments are made, and this projection later compared with the historical result accomplished.

ILLUSTRATED STEPS

I would like to suggest, with the help of some illustrations, how a program of this kind might actually be set up. To make this as realistic and pertinent as possible, it is necessary to assume a probable or plausible situation - say, a reporting by accounting and financial people to a group with primarily an operating interest and background.

A likely beginning is to set the stage with operating data. This might be summarized in this way:

ILLUSTRATION I

OPERATING DATA

		19__	19__	19__
A. DELIVERIES INTO CONSUMPTION, MAJOR PROD.	MB/D			
B. SUPPLY SALES - MAJOR PRODUCTS	MB/D			
C. DELIVERIES TO CONSOLIDATED AFFILIATES		___	___	___
MAJOR PROD.-TOTAL	MB/D	___	___	___
MINOR PROD.-TOTAL	MB/D	___	___	___
TOTAL SALES - ALL PRODUCTS	MB/D	___	___	___
MARKET POSITION	%			
D. CRUDE SALES TO AFFILIATES	MB/D			
OTHERS	MB/D			
E. REFINERY RUNS - CRUDE AND CRUDE EQUIV.	MB/D			
F. CRUDE PRODUCTION - GROSS	MB/D			
G. MARINE REQUIREMENTS - EQUIVALENT T-2's	NO.			
OWNED VESSELS				
PERIOD CHARTERS				
SPOT CHARTERS		___	___	___
TOTAL		___	___	___

For any given oil business review situation, these data would be the important items, presented so as to point to unusual or particularly significant trends or changes in trend.

Return on investment is, of course, a relationship of earnings to value of facilities used in producing the earnings. Both factors have to be brought into the discussion. Of these two elements, the more complicated and unstable is, perhaps, earnings. Appropriate data might be displayed in this manner:

ILLUSTRATION II

INCOME - DOLLARS

	19__	19__	19__
A. GROSS OPER. REVENUE -			
Normal Trade Customers			
Supply Sales			
Consolidated Affiliates			
Total			
B. LESS PURCHASE/ INVENTORY DIFFERENCE			
C. OPERATING MARGIN			

D. USED FOR: Salaries and Wages
Benefits
Outside Marine Charter Hire
Outside Producing Costs
Other Cash Costs (Excl. Interest)
Interest
Deprec., Depletion, Amortization
Other Non-Cash Costs
Operating Taxes
Income Taxes
Net Earnings

EFFECTIVE INCOME TAX RATE %

While some detailed make-up of investment might be shown, this factor is not as susceptible to short-term changes as is income. However, an appropriate basis for use again depends on circumstances of organization, responsibilities and consistent comparability.

The third and final illustration brings together and summarizes earnings and return on investment. The situation assumed is an affiliate with several functions or departments. Lack of space prevents showing all the years, although they would presumably all be included in an original report.

ILLUSTRATION III

EARNINGS & RETURN ON INVESTMENT

	1956	1959	1962
A. CORPORATE -			
Net Earnings	$		
Average Net Worth	$		
% Return	%		
B. CORPORATE -			
Cash Oper. Earnings	$		
Average Gross Plant/ Invent./Receivables	$		
% Return	%		
C. FUNCTIONAL			
Cash Oper. Earnings			
Refining	$/Bbl.		
Marketing	$/Bbl.		
Marine - Ocean	$/M Ton Miles		
D. FUNCTIONAL - % Return			
Cash Oper. Earnings			
Refining	%		
Marketing	%		
Marine	%		

In this example, the "return on investment" for each function is based on cash earnings as related to the sum of gross plant, receivables and inventories. This basis gets away from the effects of various bases for depreciation - a factor of importance when operations are widespread, especially in foreign lands. The investment represents funds tied up in plant as well as working funds on a gross basis. Illustration on this basis is on the premise that these units or factors are customarily designated in accounting - both historical and forecast.

KEY RELATIONSHIP

One of the key relationships in this model is the juxta position of return on a "cash" operating basis and conventional ret--- data - net profit to net worth. Management can thus spot deviations of one trend from another. Differences may well be a point of departure for explanation and remedy, as would any significant changes at other points. In this case they would bring out depreciation effects or unusual "non-operating" items.

You will see from this example that the word "historical" is not the sole subject of this discussion, nor in my opinion can it be with any meaning. Its only meaning, to repeat something described at the outset, is its use as a "tool" in helping us do better in the future.

In most situations an improvement in the future must ultimately get down to some very specific and real things, such as having one employee do more, or do it with less use of materials or fuel or supplies. It may be that this can be accomplished by working people harder, but what we are more often striving for is to accomplish this by means of better and improved methods, organization, and physical tools. These small unit accomplishments should add up, overall, to relatively improved earnings or to relatively less investment. Putting them together, there should be improved return on investment, or, at the very least continuance of whatever is regarded as "adequate" return on investment.

GUIDE-POST FOR ESTABLISHING REPORTING METHOD

I have shown this example as a basis for discovery of the important specifications of a reporting system employing Historical Return on Investment as a Useful Management Tool. Some important factors which I think can be derived are:

1. The system must be built on divisions corresponding to areas which are significant and manageable. These may be individual affiliates areas or other units which are the basis for management organization.
2. It should be possible for essentially parallel reporting to be carried out at various levels. This is possible when the factors used are ones clearly designated in ordinary accounting and forecasting documents.
3. Expectations and results should be reportable in an identical manner.
4. The focus of effort at each level should be to report return on investment (a theme of how much is accomplished by use of what re-

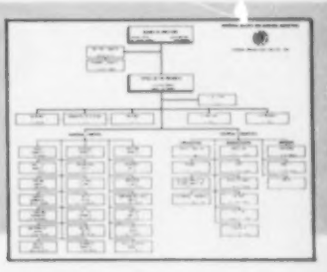
sources), along with operating and other data which are the keys to that level's responsibilities.

5. Although general adherence to the foregoing four points be strongly urged, the need for some flexibility to meet the varied personalities of the reporting units should be recognized.
6. The operating side of management must be responsible for specific corrective actions indicated as necessary by reported findings.

These principles can be found in textbooks on accounting and management. Development of analysis of income and investment has prompted the partition of businesses - for management purposes, if not corporately - into units, charging each with an investment, and making the unit accountable for return on that investment.

In summary then, it seems to me that Historical Return on Investment, in conjunction with similar data on a forecast or projected basis is a valuable Management Tool - and probably the best ultimate examining device that management can use to pick out broad areas requiring correctional attention.

HISTORY and ORGANIZATION of the NATIONAL SOCIETY for BUSINESS BUDGETING



PART II

The history and organization of the National Society for Business Budgeting is presented in two articles, the first of which appeared in the February 1958 issue of this publication. Part I consisted of a brief history, the objectives of the Society, organizational chart and explanation of the various offices, executive and planning committees. This, the final article, covers the operations of the various standing committees.

The standing committees fall into three major categories - Operational, Administrative and Advisory.

The Operational Committees consist of Chapter Formation, Research, National Publication and Annual Conference.

The Chapter Formation Committee is concerned with aiding the orderly growth of the Society so that the advantages of membership in a chapter are made available to as many practicing budget men as feasible.

The word orderly is emphasized because the Board of Directors strongly feel that they must not promote chapters simply for the sake of having additional chapters and a large national membership roster. The need for a chapter must be generated in the particular city or area largely through and by local people, persons who are sufficiently interested in the subject of budgeting to assist in accomplishing the Society's objectives.

Officially, this committee is composed of a national chairman, usually an officer or director, and seven area chairman responsible for a specific section of the country. In addition every member is welcome and encouraged to participate in this activity. Quite frequently a member-at-large is responsible for organizing a chapter. Existing chapters may also assist in organizing a chapter and occasionally do so as a means of limiting the size of their membership.

A Manual for Chapter Formation is available for the guidance of those interested in participating in this important activity. Although there is no "one best way" to accomplish this objective there are several prerequisites.

A minimum of seven eligible applicants are required to organize a chapter and petition the national officers and directors for an N.S.B.B. charter. At the final organization meeting the organizers elect three or four principal officers i.e., a president, vice president, secretary and treasurer; adopt a name for the chapter, a regular meeting night, appoint such committees as they deem necessary and agree to prepare a petition for a charter. The petition must be in writing, signed by each organizer and accompanied by individual membership applications and check for their share of current national dues.

The petition is processed in the following manner:

1. Addressed to the national officers and directors,
2. mailed to the national chairman of chapter formation for his approval and submission to
3. the national secretary for review, who in turn
4. notifies the Board of Directors by mail or at their next semi-annual meeting.

Upon approval of the directors the charter is presented to the organizers by a national officer at a chapter meeting called for this august event.

The Research Committee is currently engaged in writing a textbook on budgeting. This project was started during the fiscal year of 1955/56. This is a tremendous task and is important to the prestige of the Society. Fortunately, the members of this committee have volunteered to remain intact until this project is finished.

A more complete story will appear in a subsequent issue of this publication which, among other things, will include an outline of the contents of the textbook.

The National Publications Committee is responsible for obtaining, editing and distributing articles of interest to the membership of the society.

At the present time, the official publication of N.S.B.B. is the magazine Business Budgeting.

Six issues are distributed each year to the members, subscribers and a limited number of copies, gratis, to college libraries and other professional organizations.

The publication contains articles on various phases of budgeting, other topics considered to be of interest to our members, and personal notes regarding membership and chapter activities. The Fall issue contains reprints of the addresses delivered at our annual Spring conference. Except for the conference issue most of the material is furnished by N.S.B.B. members.

The format has been changed several times since the inception of the Society. In the early days it was issued in three parts. The first Section was a mimeographed pamphlet titled technical notes. The second part, also mimeographed and usually distributed each month, contained the personal notes and was titled Newsletter. The conference issue was a printed booklet, Annals 19--, prepared by a special committee appointed each year for this specific purpose.

The Society is very fortunate in having members who have a "flair" for this kind of work and willingness to serve as editors. It is an all year round activity to gather and edit the manuscripts and personal notes, and prepare the lay-out for the printer. Timing is another factor to be considered.

This activity is another opportunity for our members to assist in accomplishing the Society's objectives by obtaining and submitting to the editor copies of talks delivered at their chapter meetings, writing articles on their company procedures and budgetary control plan, and personal notes.

A National Conference Committee is formed two to three years in advance of the year in which the conference is to be held. The committee is manned by members of the sponsoring chapter and is composed of a general chairman, deputy chairman, secretary, treasurer and at least five chairmen for various sub-committees such as hotel arrangements, program, publicity, registration, reception and hospitality.

Invitations are extended to the directors by the chapters desiring to sponsor a conference and formally voted upon at one of the semi-annual directors meetings. The present policy is to hold conferences in cities where chapters are located and will probably be continued until such time as the number attending may limit the selection of a site to the "popular convention cities".

The conferences are usually held on Thursday and Friday of the third week in May. The Eighth Annual Conference was extended one day for the purpose of conducting three seminars concurrently. This practice may be continued.

The work of these committees is commendable in that they must rely upon the experience of previous committees, the willingness of individuals to handle assignments foreign to their training, and on a voluntary basis.

The Administrative Category of Committees consists of Admissions, Audit, Budget, and Finance, By-Laws, Election and Nominating. A brief comment follows on the activity and duties of each committee.

Admissions - the by-laws provide that applications for membership are subject to approval of the Directors. Since the Board is comprised of thirty three members spread from coast to coast, this procedure is impractical. Therefore, the Directors have authorized the Secretary to review and approve the applications. Reliance is placed upon the Chapter Membership Committees properly screening the applications before approving and submitting to national headquarters. Sponsors should never sacrifice quality for quantity or dollars of income from dues.

This committee is also responsible for reviewing petitions for chapter charters and submitting the requests to the Directors by mail for their approval.

The Audit Committee consists of three members who report directly to the Board of Directors. They audit the accounts and records of the Society twice a year and submit two reports - a preliminary report at the Spring meeting and a final report at the Fall meeting of the Directors. The Society operates on a fiscal year, July 1st - June 30th.

Budget and Finance Committee - Even a Budget Society must have a budget and that is the principal purpose of this committee. In addition, the Committee makes recommendations to the Board of Directors concerning the financial affairs of the Society.

In constructing the budget for the Society, we try to follow good budget practices as we would in industry. For example, we place the responsibility for estimating the various components on those who will be charged with the responsibility of administering those particular functions. Each chapter submits its estimate of membership renewals and new members and the Chairman of the Chapter Formation Committee gazes into the crystal ball to determine the number and size of new chapters. The host chapter of the forthcoming conference supplies the Committee with its estimate of conference net income. The officers, editor of Business Budgeting, Administrative Secretary and others who might be concerned with the disbursement of funds, submit a budget for their activities. Armed with estimates from all these sources, the Committee assembles a statement of cash receipts and disbursements and membership goals. After due analysis and study, the Committee is then charged with the responsibility of submitting the budget, together with its recommendations, to the Executive Committee and Board of Directors.

Budget vs. performance reports are issued at various intervals to keep the Board informed as to where we stand.

The By-Laws Committee is responsible for keeping the by-laws up to date and preparing complete revised editions for distribution to the members for their approval. All chapter by-laws and amendments are also subject to the review and approval of this committee.

The Election Committee consists of three members other than national officers and directors. They are responsible for inspecting and tallying all votes obtained by mail and reporting results to the officers, directors and members through the office of the secretary.

The Nominating Committee, by tradition and because of their acquaintance of many members, consists of three past presidents and a director. They are responsible for preparing a slate of qualified applicants for the four elected officers and three directors-at-large, namely, president, first vice president, secretary and treasurer for the ensuing year, two directors for a term of three years and a director for members-at-large, for a term of one year.

Around February of each year they solicit the membership to suggest the names of members for these positions.

In addition to the Nominating Committee's selection, nominations may also be made directly by members. Article X Section 2, subsection (b) of the Society's By-Laws reads, "Nominations may be made in writing signed by ten members, or by the Nominating Committee appointed by the Board of Directors."

The task of preparing a slate becomes difficult because of the abundance of members qualified to fulfill these positions and the limited number of positions available.

There are two Advisory Committees, Publicity and Education.

The National Publicity Committee is an advisory function, the Chairman reporting directly to the President, by whom he is appointed. The Chairman acts as a coordinator and advisor on Society publicity and public relations. In effect, the National Publicity Committee Chairman serves as the focal point to which Society news flows from from the various Chapter Publicity Chairmen.

Since all Society news, with the exception of the affairs of the Annual National Conference and the election of National Officers, is generated at the Chapter level, it is intended that local Chapter news be channeled to the National Publicity Committee for further handling at the National level.

The Chairman of the National Publicity Committee is responsible for locating suitable outlets for Society news and for supplying these outlets with news releases. The major problem is to secure items of sufficient interest to be carried by magazines and journals of national or widespread regional distribution. The specialized nature of budgeting work makes it difficult to convince publishers that our activities are of real news value; therefor, Chapter Publicity Chairmen should be alert to any item of unusual interest for possible publication at the national level.

News coverage for our Annual National Conference and the annual election of National Officers has been very good, but certainly can be greatly improved. News releases concerning these events have been accepted by a number of magazines, journals and large newspapers. The various Chapters have had excellent success with reports of local activities appearing in newspapers and house organs. Proof of this is contained in a rapidly growing National Publicity File which provides a reference of the work the individual Chapters have accomplished in this field.

In addition to supplying the National Publicity Committee with local news items and clippings of publicity received, each Chapter should remember to provide the Editor of Business Budgeting with both Chapter news and personal items. Business Budgeting is quoted widely by other magazines and journals and items of interest will be picked up. This also applies to articles by members; articles quoted or reproduced give prestige to the individual as well as the Society.

Good publicity and public relations are essential backgrounds for building up our Society and obtaining prestige for our members. The success of efforts in these fields will strengthen the growth of our Society, provide a quickened interest in budgeting as a career and acquaint industrial management with the growing value of budgeting as an aid to profitable operations.

Publicity is simply advertising - Advertising sells - Lets sell our Society to the public!

The purpose of the Education Committee is to co-ordinate the activities of the various chapters in their relationships with educational institutions in their local areas. These activities may take various forms among which are dinner meetings with the students and sponsored by the chapter in order to be able to explain the opportunities in the budgeting field.

The organization and instruction of a class in the subject of budgetary control with chapter members actually doing the instruction work on a rotating basis.

Having faculty members of the local college or university become associate members of the chapter in order to be able to pass on current practices and attitudes toward budgeting in local industry.

Inviting students in this field to become guest members of the chapter during their senior year and attend chapter meetings to gain a more practical insight into budgeting matters.

There are other responsibilities of the Education Committee, including an investigation as to what budgeting courses are being offered in schools, who is teaching the course and what text book is being used in order to determine the adequacy of the Society's Text Book Committee toward compensating for some of the present deficiencies.

The background information for this article on the History and Organization of N.S.B.B. was gathered together by Charles Eckelkamp, National President 1957-58. The Society is indebted to him for taking time out in a busy schedule to assemble the data and write this report. He in turn wishes to acknowledge the cooperation of the various National Committeemen who supplied the information regarding past and current procedures of their committees.